

METHODS AND APPARATUS FOR ATTACHING A HEAT SINK TO A CIRCUIT  
BOARD COMPONENT

ABSTRACT OF THE DISCLOSURE

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A retainer directly attaches to a circuit board component and to a heat sink and  
secures the circuit board component to the heat sink. The retainer provides a  
mechanical attachment between the heat sink and the circuit board component. Such  
mechanical attachment maintains thermal communication between the heat sink and the  
10 circuit board component in the absence of a thermally conductive adhesive between the  
heat sink and the circuit board component for the operational life of the circuit board  
component. Furthermore, because the retainer attaches directly to the circuit board  
component and to the heat sink, the retainer minimizes the necessity for use of mounting  
holes in the circuit board associated with the circuit board component to secure the heat  
15 sink to the circuit board component.